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10/569,554	11/02/2006	David Farrusseng	0512-1324	7749
466	7590	12/17/2009	EXAMINER	
YOUNG & THOMPSON			POLYANSKY, ALEXANDER	
209 Madison Street				
Suite 500			ART UNIT	PAPER NUMBER
Alexandria, VA 22314			1793	
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			12/17/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

## DETAILED ACTION

The applicants' arguments filed November 30, 2009 fail to place the application in condition for allowance for the following reasons:

### **Arguments are as follows:**

(I). Applicants assert that CHEN et al. pertain to multi-phase solid electrolyte ion transport membrane. Chen et al. teach an oxygen conducting membrane formed from a compound of the formula:  $A_x A'_x B_y B'_y O_{3-z}$  where A is an lanthanide element and A' is a suitable lanthanide dopant element.  $La_{1-x} Sr_x Co_{1-y} Fe_y O_{3-z}$  is specifically exemplified. The Office Action asserts that the replacement of "La" by "Ba" in the above formula would occur to one of ordinary skill in the art. The applicant respectfully disagrees. From the teachings of CHEN et al., the person of skill would replace "La" by a lanthanide element and would therefore not chose Ba, which is not a lanthanide.

*In response*, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. MPEP 2141.02(VI). The disclosure of Chen is not limited to lanthanides as applicants have asserted. Table 1 (cols. 10 and 11) exemplifies a generic formula  $A_x A'_x B_y B'_y O_{3-z}$  where A can be either La or Ba and etc (materials 1 and 3, for one), further, A' can be any of alkaline earth metals or mixtures thereof, which certainly includes the claimed Ba/Sr. The examiner noted that Chen does not EXPLICITLY teach the claimed formula in claim 24, however, it is clear from the disclosure that the compound as claimed can be ascertained from the various groupings of the generic formula  $A_x A'_x B_y B'_y O_{3-z}$  as shown in Chen's work, and it would be obvious to one of ordinary skill in the art to select the elements in the formula as claimed from the disclosure of Chen,

because Chen teaches a combination of elements that would meet the claimed formula (Table 1, *inter alia*).

(II). Applicants assert that the oxygen conducting membrane of the present invention exhibits better oxygen fluxes than the membranes of CHEN et al. More precisely, the oxygen flux at 900 °C of the membrane of example 1 of CHEN et al. (Ag coated  $\text{La}_{0.05} \text{Sr}_{0.95} \text{CoFeO}_{3-z}$ ) is 2 ml/cm<sup>2</sup> in (From Figure 4, for a 1 mm thickness, reproduced below) and Example 3 of CHEN et al. (50pd/50Ag coated  $\text{Ce}_{0.8} \text{Gd}_{0.2} \text{O}_{2-x}$ ) is 0.06 ml/cm<sup>2</sup> min. Compare this to the attached article where membranes according to the present invention have been used. The oxygen flux at 900 °C of a 1 mm thick Pt/MgO coated  $\text{Ba}_{0.5} \text{Sr}_{0.8} \text{Co}_{0.8} \text{Fe}_{0.2} \text{O}_{3-z}$  membrane is 2.84 ml/cm<sup>2</sup> min (Table i, page 3, reproduced below), which corresponds to an improvement of 40% of the best oxygen flux reported by CHEN et al. This improvement of the oxygen flux is an unexpected result that clearly cannot be inferred from the technology of CHEN et al.

*In response*, Chen teaches the formula as stated above. The disclosure of Chen is not limited to the examples.

Further, objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant. See, for example, *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984). See MPEP 716.01(C)(I).

Even further, the arguments of counsel cannot take the place of evidence in the record. In *re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). Examples of attorney

statements which are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant. See MPEP 716.01(C)(II).

(III). The applicants submit that HAZBUN does not address the deficiencies of CHEN et al. discussed above. One or ordinary skill and creativity would thus fail to produce a claimed embodiment of the present invention from a knowledge of the applied art references. A *prima facie* case of unpatentability has thus not been made. Further, the unexpected results of the present invention fully rebut any unpatentability that can be alleged.

In response, the examiner's position regarding the Chen reference is as stated above. Since the applicants do not specifically address any shortcomings of the Hazbun reference, the reference is applied to rejected claims as stated in the previous office action dated July 30, 2009.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER POLYANSKY whose telephone number is (571)270-5904. The examiner can normally be reached on Monday-Friday, 8:00 a.m. EST - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 1793

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